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(54) Title: **MONOCYCLOPENTADIENYL COMPLEXES**

(57) **Abstract:** Monocyclopentadienyl complexes in which the cyclopentadienyl system bears at least one unsubstituted, substituted or fused, heteroaromatic ring system bound via a specific bridge, a catalyst system, comprising at least one of these monocyclopentadienyl complexes, the use of the catalyst system for the polymerization or copolymerization of olefins and a process for preparing polyolefins by polymerization or copolymerization of olefins in the presence of the catalyst system and polymers obtainable therewith.